

① 90

WARM UP:

② 35.58

③ a) \$15.02

$$b) \$1.05 + 15.02 = \$16.07$$

$$c) \$21.37 = 0.30 + 5 + 15.02 + 1.05$$

④ 155.59

⑤ 50.65

⑥ 37.5%

⑦ 156

⑧ 29.49

Problems about Percents

Example: 45 is 28% of what number?

→ n

DECODE:

OF = multiply

IS = equals

WHAT NUMBER = variable

"what percent" → P

Re-Write: $\frac{45}{0.28} = \frac{\cancel{0.28} \times n}{\cancel{0.28}}$

Solve!

$$160.71 = n$$

Examples:

1) 35 is 80% of what number?

$$\frac{35}{0.80} = \frac{0.80 \times n}{0.80}$$

$$n = 43.75$$

2) 16 is 23% of what number?

$$\frac{16}{0.23} = \frac{0.23 \times n}{0.23}$$

$$n = 69.57$$

3) 40 is what percent of 12?

$$\frac{40}{12} = \frac{p \times 12}{12}$$

$$p = 3.333...$$

$$333.33\%$$

4) 7 is what percent of 36?

$$\frac{7}{36} = \frac{p \times 36}{36}$$

$$p = 0.1944...$$

$$19.44\%$$

Try these: (CIRCLE YOUR ANSWERS!)

5) 103 is 43% of what number?

6) 62 is 104% of what number?

7) What percent of 85 is 40?

8) 8 is what percent of 20?

9) What number is 16% of 40?

10) What number is 36.2% of 80?

11) What number is 17.8% of 37?

$$\textcircled{5} \quad 103 = 0.43 \times n$$

$$n = 239.53$$

$$\textcircled{6} \quad 62 = 1.04 \times n$$

$$n = 59.62$$

$$\textcircled{7} \quad p \times 85 = 40$$

$$p = 47.06\%$$

$$\textcircled{8} \quad 8 = p \times 20$$

$$p = 40\%$$

$$\textcircled{9} \quad n = 0.16 \times 40$$

$$n = 6.4$$

$$\textcircled{10} \quad n = 0.362 \times 80$$

$$n = 28.96$$

$$\textcircled{11} \quad n = 0.178 \times 37$$

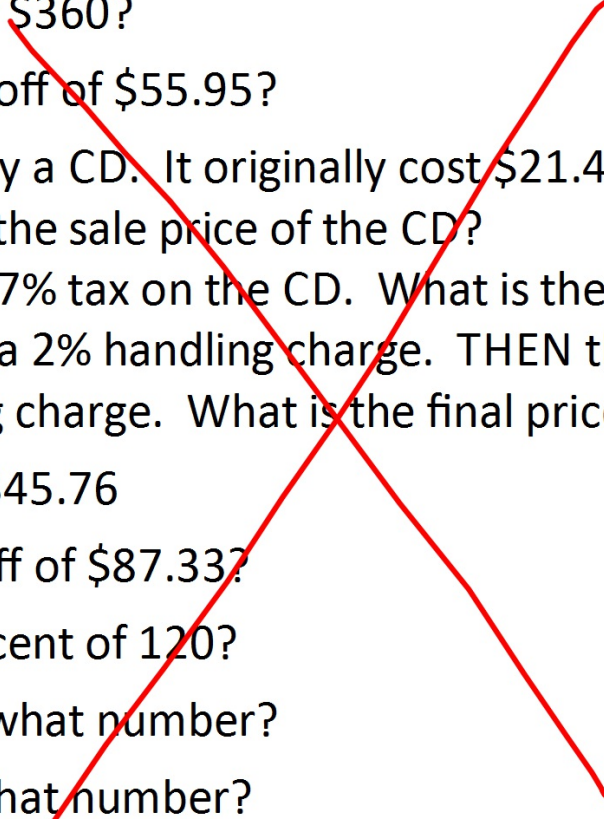
$$n = 6.59$$

On your own, try these:

- 1) 20 is what percent of 42?
- 2) What number is 10% of 73?
- 3) 61 is 16% of what number?
- 4) What percent of 82 is 97?
- 5) 19.2% of 56 is what number?
- 6) 73 is 120% of what number?
- 7) What is 32% off of 47.5?
- 8) What is 17% off of 68?
- 9) There is a sale on shirts. They were originally \$21.50. They are now \$17.95. What percentage are you saving? (what percent off?)

16.51%

Try these (be careful of the wording!)

- 1) What is 25% of \$360?
 - 2) What is 36.4% off of \$55.95?
 - 3) You want to buy a CD. It originally cost \$21.45. It is now 30% off.
 - A) What is the sale price of the CD?
 - B) There is 7% tax on the CD. What is the total price?
 - C) There is a 2% handling charge. THEN there is a \$5 flat rate shipping charge. What is the final price of the CD?
 - 4) Find 45% of \$345.76
 - 5) What is 42% off of \$87.33?
 - 6) 45 is what percent of 120?
 - 7) 52% of 300 is what number?
 - 8) 23 is 78% of what number?
- 

Finding the percent SAVED (the percent off)

$$\frac{\$ \text{ saved}}{\text{ORIG}}$$

Example 1:

A computer is on sale for \$650. It was originally \$875.50.

What percent are you SAVING? (What is the percent off?)

$$\text{ORIG} = \$875.50$$

$$\begin{array}{r} \text{SALE} = \$650 \\ \hline 225.50 \end{array}$$

$$\frac{650}{875.50} = 74.24\%$$

① Find amount saved
\$225.50

$$0.25756$$

$$\text{② } \frac{\$ \text{ saved}}{\text{ORIG.}} \rightarrow \frac{225.50}{875.50} = 25.76\%$$

Example 2: You want to buy a new cell phone. It usually costs \$215. However if you sign up for a new 2 year contract, you will get the phone for \$50. What percentage are you **saving** on the phone?

$$\begin{array}{r} \text{ORIG} = \$215 \\ \text{SALE} = \$50 \\ \hline 165 \end{array}$$

$$\frac{\$ \text{ saved}}{\text{ORIG.}}$$

$$\frac{165}{215} = 76.74\%$$

Try these examples:

1) Originally: \$657.22
Sale price: \$500

23.92%

2) Originally: \$34.55
Sale price: \$25.00

27.64%

3) Originally: \$126.32
Sale price: \$55.33

56.20%

4) Originally: \$300
Sale price: \$125

58.33%

SAVED
ORIG

Complete the next advertisement activity!

Name

Ads #2

Item	Orig \$	Sale \$	Sale %

SAVED
ORIG

complete review worksheet for quiz

Review

$$\textcircled{1} \quad 20 = p \times 35$$

$$p = 57.14\%$$

$$\textcircled{2} \quad n = 0.25 \times 57$$

$$n = 14.25$$

③ $n = 2750$

④ $p = 144.44\%$

⑤ $n = 68.87$

⑥ $n = 142.86$

⑦ $0.37 \times 66.23 = \underline{24.51}$

⑧ $66.23 - 24.51 = 41.72$

⑧ 68.73

⑨

$$\frac{26.50}{46.50} = 56.99\%$$

\$ SAVED
ORIG

0.5698924...

56.98924.... %

⑩

$$\begin{array}{r} 95 \\ - 80 \\ \hline \$15 \end{array}$$

$$\frac{15}{95} = 15.79\%$$

15.70%

① 35 is what percent of 176?

19.89%

② what number is 23% of 70?

16.10

③ 423 is 15% of what number?

2820

④ Shirts are originally \$22.10.
They are now \$15.50. What
is the % saved?

6.60
22.10

29.86%